

**Emergency Department Pediatric Encounters for Non-Urgent Conditions,  
Montana, 2011-2013<sup>1</sup>**

Cody L. Custis, MS, Montana Hospital Discharge Data System Epidemiologist

Emergency department (ED) encounters for conditions which can be treated in physicians' offices or urgent care facilities incur unnecessary expenses and use essential emergency services inappropriately. Although serious conditions such as broken bones are appropriately treated in EDs, minor conditions such as non-specific symptoms with gradual onset can be treated in physicians' offices or urgent care facilities.<sup>2</sup> Nevertheless, overuse of EDs by parents for non-urgent conditions among their children has been identified as a common problem. A recent report examined ED use among children (ages 0-17 years) as part of the Nation Health Interview Survey, finding that 29.9% of ED encounters were for non-urgent reasons.<sup>3</sup> A number of other studies in a variety of geographic areas estimate that the proportion of unnecessary ED visits range from 8% to 62%, with an average of 35%; the associations with income, education, and insurance status are inconsistent across studies.<sup>4</sup> At a Colorado hospital only 20% of children whose parents called the after-hours call center needed to be seen in the ED; children do not need to visit the ED for otitis media unless ordered by a health care provider; and children without emergency warning signs do not need to visit the ED for acute respiratory infections (ARIs).<sup>5</sup> For both adults and caregivers presenting with their children, infrastructure barriers such as restrictive office hours, long delays in getting appointments, practices not accepting new patients or Medicaid or Medicare patients, and long waits in walk-in clinics and urgent care facilities can be reasons for seeking care in the ED.<sup>6</sup>

This report examines ED encounters from 2011 through 2013 for Montana children for three conditions for which treatment at the ED is not usually necessary: non-specific symptoms (such as chest or abdominal pain), otitis media, and acute respiratory infections (ARIs).

<sup>1</sup> The Montana Hospital Discharge Data System (MHDDS) receives annual de-identified hospital discharge data sets through a Memorandum of Agreement with the Montana Hospital Association. Most hospitals in Montana participate in voluntary reporting from their Uniform Billing forms, version 2004. The MHDDS receives information on more than 90% of inpatient admissions and emergency department encounters in Montana. It does not receive data outpatient procedures at this time.

<sup>2</sup> <http://www.scripps.org/assets/documents/erorurgentcare.pdf>

<sup>3</sup> Gindi RM, Jones LI. Reasons for Emergency Room Among U.S. Children: National Health Interview Survey, 2012 *NCHS Data Brief* July 2014

<sup>4</sup> Uscher-Pines L, et al. 2012. Emergency department visits for non-urgent conditions: systematic literature review. *Am J Manag Care* 19:47-59.

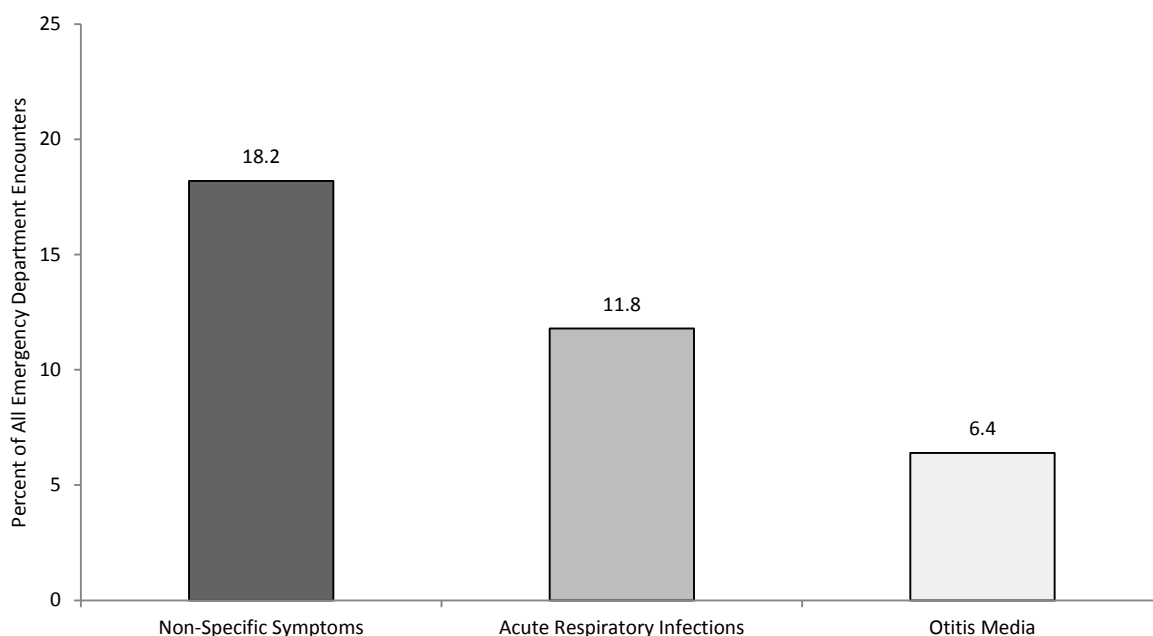
<sup>5</sup> <http://www.webmd.com/children/guide/serious-symptoms-in-children> ; <https://www.health.ny.gov/publications/4815/> ; <http://www.cdc.gov/flu/takingcare.htm> ; <http://blogs.webmd.com/focus-on-flu/2009/11/when-should-you-go-to-the-er.html>

<sup>6</sup> Rust G, et al. 2008. Practical barriers to timely primary care access: impact on use of emergency department services. *Arch Intern Med* 168:1705-1710.

---

There were 56,140 ED encounters for these non-urgent conditions from 2011 to 2013 out of a total of 154,206, accounting for 36.4% of ED encounters in this age group; the most common condition was non-specific symptoms (Figure 1), followed by acute respiratory infections and otitis media. The two most common non-specific symptoms, accounting for 25% and 21% of symptoms encounters, were for abdominal pain and chest pain. Although chest pain may be associated with serious cardiac events in adults, a study at a Boston hospital found very few children (<1%) who presented with chest pain that had cardiac conditions requiring emergency treatment.<sup>7</sup>

Figure 1. Percent of All Emergency Department Encounters for Selected Conditions, Montana Children Ages 0-17 Years, 2011-2013, Montana Hospital Discharge Data System

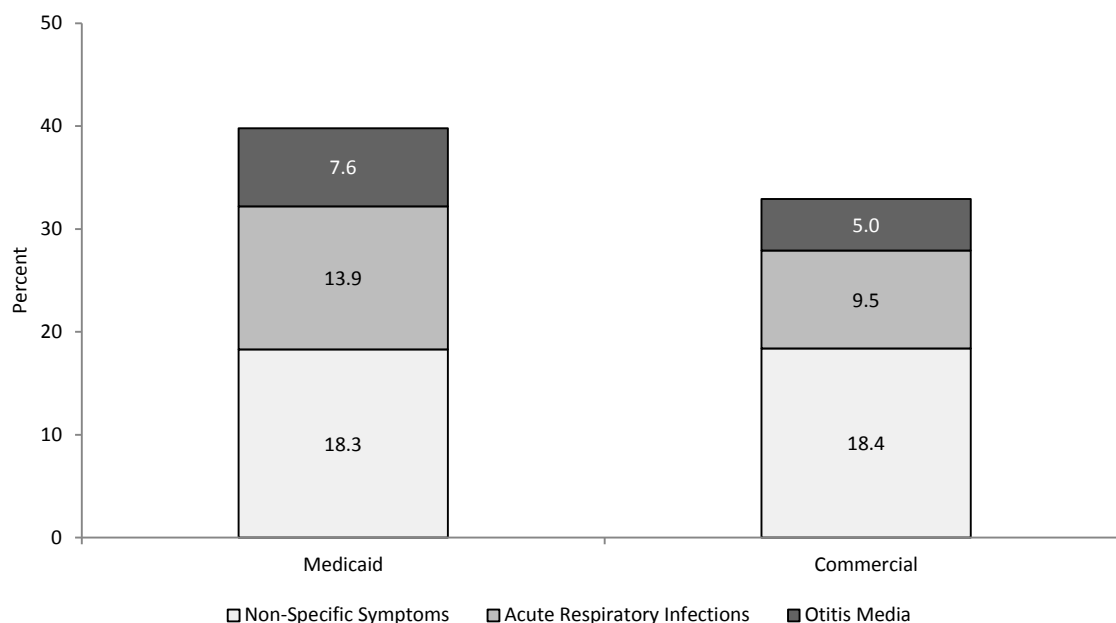


A higher proportion of children with Medicaid as primary payer had an ED encounter for acute respiratory infection (ARIs) or otitis media as the primary diagnosis than did those with a commercial carrier as a primary payer (Figure 2). This may be due to either higher infection rates of ARI and otitis media among Medicaid covered children or Medicaid covered children may present at EDs due to facing barriers to treatment for ARIs and otitis media at physicians' offices or urgent care facilities.

---

<sup>7</sup> [http://library.ahima.org/xpedio/groups/public/documents/ahima/bok2\\_000466.hcsp?dDocName=bok2\\_000466](http://library.ahima.org/xpedio/groups/public/documents/ahima/bok2_000466.hcsp?dDocName=bok2_000466); Saleeb SF et al Effectiveness of Screening for Life-Threatening Chest Pain in Children *Pediatrics* October 2011

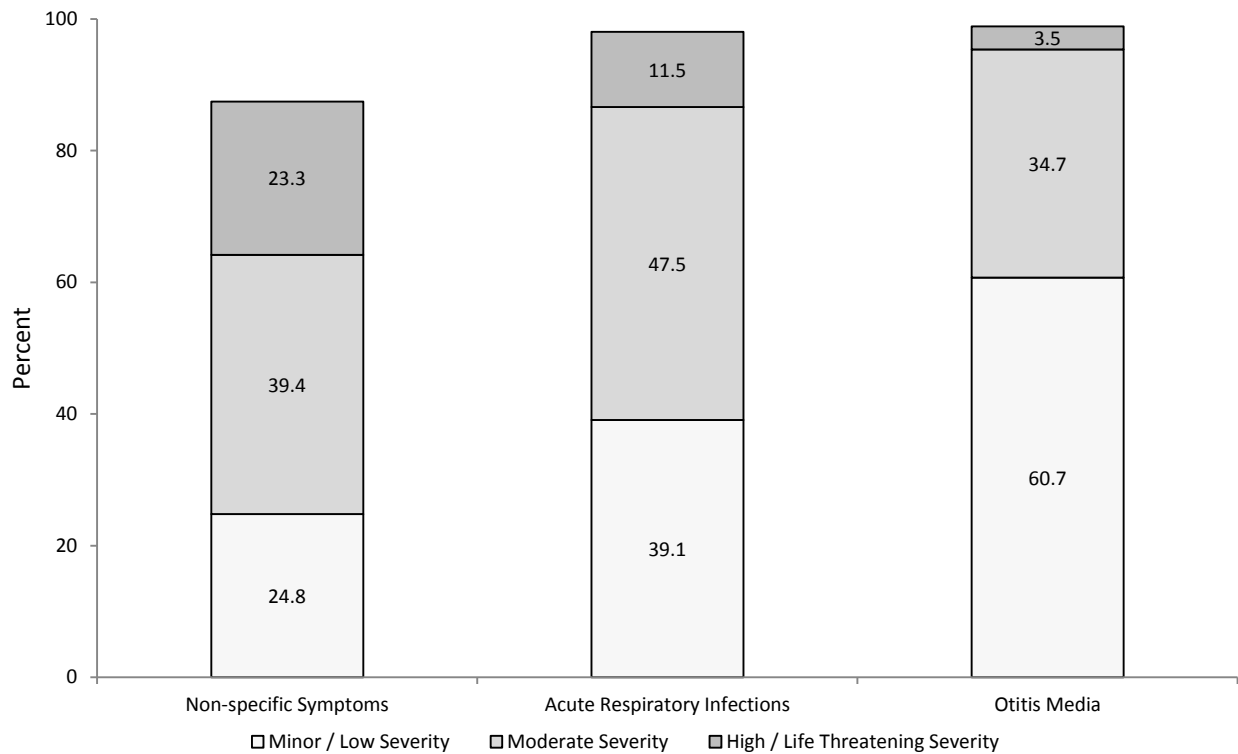
Figure 2. Percent of All Emergency Department Encounters for Selected Conditions, Montana Children Ages 0-17 Years, 2011-2013, by Primary Payer, Montana Hospital Discharge Data System



We examined the evaluation and management (E/M) codes and other procedure codes to determine the complexity of treatment received in the ED. E/M codes are assigned based on both the severity of the presenting problem and physician's assessment of the patient.<sup>8</sup> A single encounter may have multiple procedures recorded; procedures are ordered based on reimbursement.<sup>9</sup> The E/M evaluation code was the principal procedure code for 87%, 98%, and 99% of ED encounters for non-specific symptoms, ARIs, and otitis media respectively, meaning that the majority of children had minor treatment beyond evaluation. Nearly all encounters for otitis media were of minor, low, or moderate severity (95.4%). In contrast, only 64.2% of encounters for non-specific symptoms were of minor, low, or moderate severity (Figure 3).

<sup>8</sup><http://www.connecticare.com/provider/PDFs/CCIOvercodingGuideFINAL.pdf> ;  
[http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/eval\\_mgmt\\_serv\\_guide-ICN006764.pdf](http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/eval_mgmt_serv_guide-ICN006764.pdf) ;  
<http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt.page?>;  
 CPT copyright 2012 American Medical Association. All rights reserved.  
<sup>9</sup> <http://www.physicianspractice.com/blog/payers-and-cascading-payments-tips-your-medical-practice>

Figure 3. Evaluation and Management Codes for Selected Conditions, Emergency Department Encounters to Montana Residents Age 0-17 Years, 2011-2013, Montana Hospital Discharge Data System

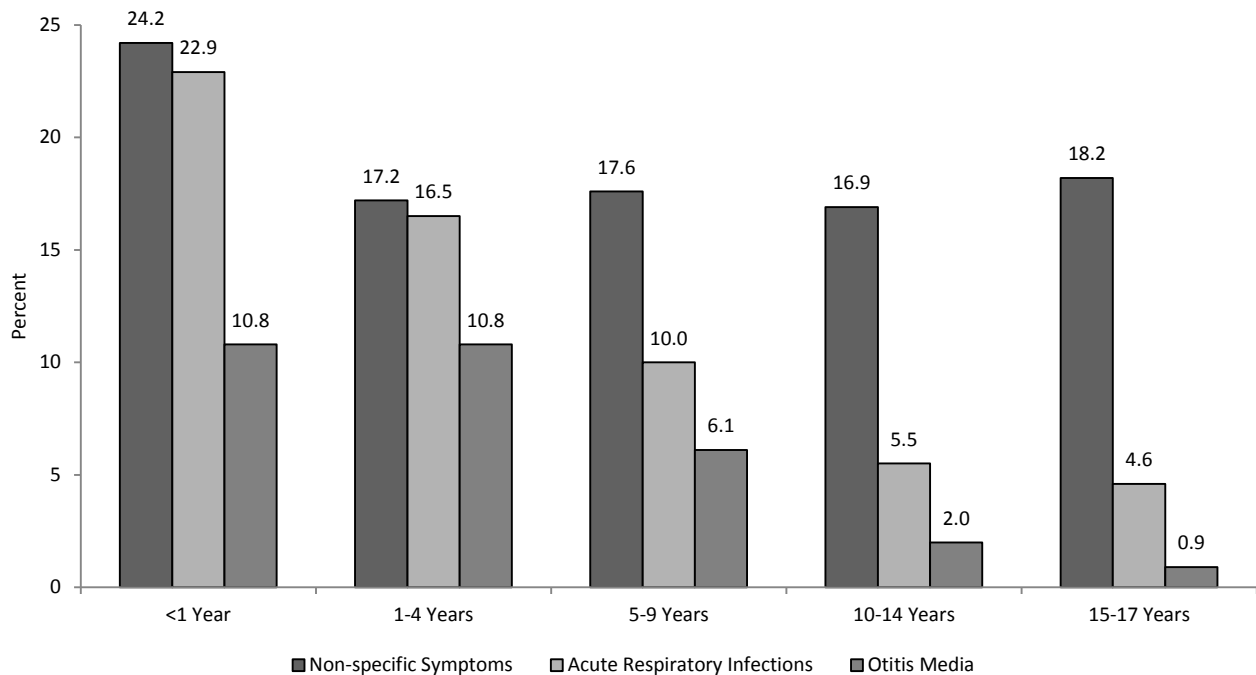


\*Encounters without Evaluation and Management codes are not shown

We compared procedures for encounters for chest pain, a potentially serious complaint, (ICD-9-CM: 786.5x) and otitis media, which is rarely serious. For chest pain, the most common procedures were radiologic imaging of the chest (62.9% of chest pain encounters); 46.4% of encounters had electrocardiogram tracing. Because of these complex procedures, total charges for encounters for chest pain symptoms averaged \$2,965. In contrast, 77.1% of encounters for otitis media had no procedures, other than the E/M evaluation, performed. This is consistent with straightforward treatment for a limited problem. Average charges for encounters for otitis media were \$358.

Infants accounted for the largest percentage of encounters for non-specific symptoms, ARIs, and otitis media (Figure 4). These illnesses may be more serious in infants, and thus warrant treatment at the ED, while not requiring emergency treatment for older children, or parents may be more anxious about infants and more motivated to seek immediate treatment. We are unable to determine if the declining percentage of encounters for otitis media and ARIs with age reflects treatment patterns, severity, or incidence. The percentage of encounters for non-specific symptoms for non-infant children did not substantially decline with age.

Figure 4. Percent of All Encounters for Age Group for Selected Conditions, Emergency Department Encounters to Montana Residents Age 0-17 Years, 2011-2013, Montana Hospital Discharge Data System



#### Conclusions:

Policymakers should be concerned about the high proportion of ED encounters for conditions such as otitis media, ARIs, and symptoms which may not require emergency treatment. These encounters are a substantial burden on emergency departments, and divert resources which would be best used for treating patients with conditions that require emergent care. Parents should be educated about otitis media, ARIs, and non-specific symptoms to know when they represent serious health threats that should be treated immediately and when they can be treated outside of the ED. Physicians at Children's Hospital Boston developed a Standardized Clinical Assessment and Management Plan (SCAMP) for these children presenting with chest pain and no prior medical history of heart disease; the SCAMP has been shown to decrease the use of electrocardiography by 20% and eliminate exercise stress testing for those children at that hospital.<sup>10</sup>

For information about the Montana Hospital Discharge Data System, please contact Cody L Custis, Epidemiologist,  
Office of Epidemiology and Scientific Support, (406) 444-6947 or ccustis@mt.gov

This document was published in electronic form only. Alternative formats of this document will be provided on request.

Please visit our website at <http://www.dphhs.mt.gov/publichealth/epidemiology/index.shtml>

<sup>10</sup> Friedman KG, et al. Management of Pediatric Chest Pain Using a Standardized Assessment and Management Plan *Pediatrics* July 2011